

REMARKS

Applicant would first like to thank Examiner Hanley for this examination.

Claims 1-9 are currently pending in the application, and claims 1 and 5-6 stand rejected under 35 USC 102 (b) as being anticipated by US Pat. No. 6,054,810 to Yamamoto et al. (hereafter Yamamoto). Claims 2-4 and 7-8 stand rejected under 35 USC 103(a) as being obvious over Yamamoto in view of US Patent No. 6,204,598 to Bruggemann et al. (hereafter Bruggemann). Claim 9 stand rejected under 35 USC 103(a) as being obvious over Yamamoto in view of US Patent Publication No. 2003/0076041 to Honda et al. (hereafter Honda).

SPECIFICATION

The office action objects to the title as not being clearly indicative of the invention. Applicants have amended the title herein and respectfully contend that the title, as amended meets all statutory requirements.

The office action provides guidelines for use of the trademark VacovitTM. Applicants have amended the specification as suggested.

The office action provides guidelines for arrangement of a specification. Applicant appreciates this information and respectfully contends that the application, as provided, meets all statutory requirements.

CLAIM REJECTIONS - 35 USC 102

Claims 1 and 5-6 stand rejected under 35 USC 102 as being anticipated by US Pat. No. 6,054,810 to Yamamoto et al. (hereafter Yamamoto).

Applicant respectfully contends that claim 1 is allowable because it includes a feature that is neither disclosed nor suggested by Yamamoto or any other reference cited, namely “at least one of the lamp base (8), the first contact member and the second contact member (14, 15) functioning as an end-of-life device.” As clearly pointed out in the present application, Applicants have determined that a glow discharge problem occurs in known discharge lamps. Moreover, the inventors have provided a solution to this problem by configuring at least one of the base, the first contact member and the second contact member as an end-of-life device. The present invention controls the end of life for the lamp by forming one of the previously described elements to mechanically fail (i.e., deform or crack) under the stress of an arc discharge. Yamamoto does not discuss the concept of end-of-life management, end-of-life devices, or the glow discharge problem which the end-of-life devices address.

The office action suggests that Yamamoto discloses the limitations of claim 1 and therefore will function as an end-of-life device. Applicants respectfully disagree. “Functioning as an end-of-life device” is a limitation that Yamamoto neither discloses or suggests. In order to function as an end-of-life device, the lamp base or one of the contacts must deform or crack under the specified conditions (here the stress of an arc discharge). This prevents the lamp from overheating when an arc discharge occurs, and therefore prevents damage to the outer envelope and wiring of the lamp. As specifically provided in the present application, the lamp base may be configured to function as an end-of-life device by forming it of soft glass which will deform or crack before excessive temperatures are reached. Yamamoto is silent regarding the properties of the lamp base, other than to identify that it is an insulator.

The other references do not provide what Yamamoto lacks. In fact Bruggemann teaches away from the present invention providing for a lamp base with a softening point of about 680 degrees centigrade.

Claims 5-6 depend from claim 1 and Applicant respectfully contends that they are allowable for the reasons presented above.

Applicant respectfully contends that claim 5 is also allowable because it includes another feature that is neither disclosed nor suggested by Yamamoto, namely “the lamp base (8) supports the outer envelope”. As explained in the application this configuration allows for the use of the plane surface of the lamp base facing away from the discharge vessel to be used as a reference for positioning the discharge vessel.

Yamamoto provides a stem insulator 2 disposed at the opening of the outer tube 1 to seal outer tube 1 (col. 4, lines 34-35). Thus, Yamamoto does not disclose the feature of the lamp base supporting the outer envelope, which provides an advantage as disclosed in the present invention.

CLAIM REJECTIONS - 35 USC 103

Claims 2-4 and 7-8 stand rejected under 35 USC 103 (a) as being obvious over Yamamoto in view of U.S. Patent No. 6,204,598 to Bruggemann et al. (hereafter Bruggemann). Claims 2-4 and 7-8 depend from claim 1 and Applicant respectfully contends that they are allowable for the reasons claim 1 is allowable.

Claim 9 stands rejected under 35 USC 103 (a) as being obvious over Yamamoto in view of U.S. Patent Publication No. 2003/0076041 to Honda et al. (hereafter Honda). Claim 9 depends from claim 1 and Applicant respectfully contends that it is allowable for the reasons claim 1 is allowable.

Applicants respectfully contend that claim 9 is further allowable because it includes another feature that is neither disclosed nor suggested by Yamamoto or Honda, or any the other reference cited, namely “the ratio of the distance d_e between the electrodes (6, 7) to the height h_{d1} of the high-pressure discharge lamp along the longitudinal axis (22) lies in a range of: $0.02 \leq d_e/h_{d1} \leq 0.2$.”

The office action of September 17, 2007 concedes that neither Yamamoto nor Honda disclose an overall height of a discharge lamp. Therefore neither Yamamoto nor Honda can disclose or suggest a ratio of the electrode gap to the overall height. The office action states that it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. The office action appears to suggest that this ratio is obvious because it is merely an optimum or workable range for a known feature. Applicant respectfully disagrees. The claimed ratio, however, is not a range for a known feature such as a material composition or a range in a manufacturing process. Instead, this ratio represents a distinct advantage in a discharge lamp as described in the application. This ratio represents a significant shortening of the overall length for a discharge lamp due to the improved control of the atmosphere in the outer envelope.

CONCLUSION

In view of the amendments and arguments presented herein, Applicant respectfully contends that claims 1-13 are in condition for allowance. Accordingly, Applicant respectfully requests entry of the amendments, reconsideration and allowance of claims 1-13 and issuance of letters patent.

Sincerely,



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